ORIGINAL

Sirius Satellite Radio Inc.

XM Radio Inc.

August 2, 2001

BY HAND

Ms. Magalie Roman Salas, Secretary
Federal Communications Commission
The Portals
445 Twelfth Street, S.W.
12th Street Lobby, TW-A325
Washington, DC 20554

Re: Written *Ex Parte* Presentation
***1998 Biennial Regulatory Review — Amendment of Part 18 of the Commission's Rules to Update Regulations for RF Lighting Devices* (ET Docket No. 98-42)**

Dear Ms. Salas:

Sirius Satellite Radio Inc. ("Sirius") and XM Radio Inc. ("XM") write to correct the misconceptions—set forth in Fusion Lighting, Inc.'s ("Fusion") written *ex parte*, dated July 3, 2001—that Fusion has about the Commission's obligation to protect satellite DARS licensees, such as Sirius and XM, from harmful interference. Sirius and XM also write to urge the Commission not to be distracted by the red herrings dispersed throughout Fusion's letter.

The Central Issue—Protection from Harmful Interference

The Commission's duty to protect authorized radio communications services from harmful interference caused by unlicensed devices is not discretionary. Section 302 of the Communications Act of 1934, as amended, directs the Commission to regulate devices that emit electromagnetic energy on frequencies within the radio frequency spectrum in order to prevent harmful interference to authorized radio communications services.[1] FCC regulations similarly require operators of ISM equipment to protect authorized radio communications services, such as satellite DARS, from interference.[2]

The law thus does not give the agency the flexibility to "balance the equities," as Fusion requests, to trade off licensed satellite DARS link budget performance with unlicensed non-communications devices. While Fusion's plans anticipate the widespread deployment of RF lighting devices for uses that cause harmful interference to an authorized radio communications service, the FCC cannot adopt technical standards for Fusion's RF

[1] 47 U.S.C. § 302a(a).

[2] 47 C.F.R. §§ 18.111(b) and 18.115(a).

lighting devices that will permit harmful interference to a licensed service when the devices are used as intended and expected by Fusion.

Red Herrings

As mentioned above, Fusion makes a number of allegations and arguments intended to distract the Commission's attention from the real issue—the requirement that the Commission adopt technical standards that protect the satellite DARS service from the known threat of harmful interference. These allegations and arguments are addressed below.

- Fusion parrots its earlier claims that satellite DARS systems are unusually susceptible to interference. However, Sirius and XM repeatedly have addressed this claim. Satellite DARS operates in a fashion similar to any mobile satellite service ("MSS"), relying on link margins comparable to those for GPS and other existing MSS services. Fusion does not challenge this. In any event, the link margins for Sirius' and XM's systems were submitted to the Commission many years ago. The FCC should not confuse Fusion's unsupported disputation with actual evidence on the record.

- Even if Fusion was correct in alleging that satellite DARS requires extraordinary protection from interference, this allegation is irrelevant. Regardless of the level of interference protection required by satellite DARS, unlicensed ISM devices must not cause harmful interference to licensed radio communications services.[3] Moreover, the Commission supported such interference protection levels for DARS in coordination agreements with both Canada and Mexico.

- Seeking to discredit the RF lighting tests conducted thus far, Fusion decries the fact that the joint test conducted by Sirius, XM and Fusion and the test conducted by Sirius and XM did not employ DARS receivers. But, this criticism skates lightly over the fact that Fusion agreed to the joint test parameters, at the suggestion of the Commission, and these did not include use of a DARS receiver. Moreover, and most importantly, Fusion does not suggest that the test was wrong, or claim that satellite DARS customers will be able to receive signals from the DARS satellites when they are near Fusion's RF lighting devices. While the satellite DARS licensees currently are discussing with Fusion its request for additional testing using a DARS receiver, this does not undermine the record evidence to date establishing harmful interference.

- Fusion quibbles with our position that the rules governing ISM equipment—which require that it not cause harmful interference to authorized radio communications

[3] Further, while Fusion's statement that its proposed out-of-band emissions limit is 10 dB below the limit proposed by the Commission in this proceeding and 36 dB below the present out-of-band emissions limit applicable to RF lighting devices is correct, it is irrelevant. The FCC cannot adopt an out-of-band emissions limit that would permit harmful interference to satellite DARS services—such as that proposed by Fusion—regardless of whether the limit represents an improvement over that in place at this time.

services—make manufacturers of such equipment responsible for taking steps to prevent such interference. Fusion correctly points out that these rules apply to operators of ISM devices and not directly to it or other manufacturers. However, this is a distinction without a difference. Fusion acknowledges that it is the manufacturer's responsibility to ensure that its equipment complies with the FCC's technical standards for RF lighting devices when such standards are adopted.[4] Further, because the Commission can adopt only technical standards that protect authorized radio communications services from harmful interference, manufacturers like Fusion will be responsible for ensuring that their devices do not cause harmful interference to licensed services. And, when interference complaints begin—and they will if Fusion's plans are implemented—the FCC's Enforcement Bureau will have its hands full tracking RF lighting purchasers and unplugging their lights. Such entities are Fusion's potential customers, but Fusion displays no apparent concern about vending a product that cannot be used as Fusion intends and expects. Fusion's senseless carping should not divert the Commission's attention.

- Fusion, in an attempt further to distract the FCC from the task at hand, attacks our suggestion that now is a good time for the Commission to adopt rules that protect DARS operations from harmful interference. However, Fusion does not dispute the facts, set forth in an article from U.S. News and World Report, that Fusion has suspended manufacturing and installing its RF lighting devices while it redesigns them.

- Fusion questions the satellite DARS licensees' estimate of the costs of constructing and deploying additional terrestrial repeaters for their systems. The issues surrounding terrestrial repeater system deployment are well-established in a different docket. In any event, the exact amount is irrelevant because satellite DARS licensees are entitled to protection from any harmful interference problems caused by Fusion's RF lighting devices and are not responsible for curing any such problems. Moreover, Sirius and XM have demonstrated—and Fusion has not shown otherwise—that it would cost far less for Fusion to remedy the harmful interference problem than it would cost satellite DARS licensees. This is especially true because Fusion is not installing new RF lighting systems at this time, and could design future systems to avoid harmful interference to licensed services. Finally, even if the deployment of terrestrial repeaters were more cost effective, Fusion's approach would not resolve the RF lighting interference problem in rural areas or on highways, where repeaters will never be deployed. Current plans are to deploy DARS repeaters in areas covering no more than one percent of the geographic United States.

- Fusion criticizes Sirius and XM for continuing to suggest that Fusion might be able to prevent out-of-band interference with satellite DARS systems through use of solid state exciters. Fusion's response to this suggestion indicates that Fusion never devoted much

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[4] *See* 47 C.F.R. §§ 18.203(a), 2.906, 2.907, 2.931 and 2.1073.

time to RF interference minimization. However, no matter how much Fusion criticizes our suggested solutions to the harmful interference problem, it does not change the fact that the Commission cannot permit Fusion to manufacture RF lighting devices that will pollute the spectrum and cause harmful interference to Sirius' and XM's operations.

- Fusion suggests that this proceeding is analogous to PR Docket No. 93-61, a proceeding in which the Commission accommodated the operation of both LMS systems and Part 15 devices. That docket is inapplicable here. PR Docket No. 93-61 concerned the setting of *in-band* emissions limits for Part 15 devices to enable the sharing of the frequency band on which these devices operated with the newly created LMS service. Here, the FCC must ensure that unlicensed devices that are used as the manufacturer intends do not generate out-of-band emissions that would interfere with previously licensed services well outside the spectrum set aside for unlicensed devices. Thus, the interference created by Fusion's RF lighting devices differs from that addressed in the LMS proceeding because Fusion's interference to satellite DARS operations is caused by out-of-band emissions that are inherently secondary. Further, unlike the LMS service—which was licensed after the Part 15 devices were authorized—the DARS service was licensed before the FCC even initiated this proceeding to allow the operation of RF lighting devices at 2450 MHz.

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In sum, Fusion fundamentally misunderstands its and the Commission's obligation to protect DARS licensees from harmful interference caused by its unlicensed IMS equipment. The Commission has no discretion to adopt technical standards that would allow Fusion to manufacture RF lighting devices that, when used as intended, would cause harmful interference to satellite DARS operations. The Commission should not be distracted from this central issue by the extraneous arguments and allegations made in Fusion's written *ex parte*.

Neither Sirius nor XM opposes introduction of new lighting technology that allegedly offers economic and environmental benefits for consumers. But, being "environmentally friendly" includes designing systems that do not cause harmful interference to licensed radio communications services a hundred megahertz away. Simply put, the public interest in reduced energy consumption gives Fusion no special rights to pollute the radio spectrum with harmful out-of-band emissions. And, *a fortiori*, the Commission cannot disregard its statutory responsibility to ensure that unlicensed Part 18 devices do not interfere with licensed services such as satellite DARS.

If further information is required in connection with this submission, please direct inquiries and correspondence to the undersigned.

Sincerely,

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CERTIFICATE OF SERVICE

I hereby certify that on this 2nd day of August, 2001, I caused copies of the foregoing "Written *Ex Parte* Presentation" to be hand-delivered to the following:

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August 2, 2001